CONTENTS OF VOLUME

Number 1

T. A. DEAN	1	Editorial
Y. TOZAWA	3	Introduction. Special Issue on recent developments of the technology of plasticity in Japan
T. SUZUKI	5	Recent developments of forging in Japan
K. KONDO	29	Recent developments of shearing in Japan
M. SUGIMOTO	39	Recent development of sheet metal press forming in Japan
K. KAWADA and H. KOYAMA	55	Recent developments of bending in Japan
M. KIUCHI	63	Recent development of roll-forming in Japan
K. KAWAI and M. HAYAMA	79	Recent developments of rotary forming in Japan
T. MAEDA	89	Recent developments of plastics solid phase forming in Japan
GENERAL PAPERS		
K. KIM and S. S. KIM	99	Effect of preload on running accuracy of spindle
T. C. TSZENG, Y. T. IM and S. KOBAYASHI	107	Thermal analysis of solidification by the temperature recovery method
T. C. TSZENG and S. KOBAYASHI	121	Stress analysis in solidification processes: application to continuous casting
S. DARWISH and R. DAVIES	141	Adhesive bonding of metal cutting tools
M. FATTOUH and M. M. EL-KHABEERY	153	Residual stress distribution in burnishing solution treated and aged 7075 aluminium alloy
L. T. CHAN and N. S. ONG	161	Design and development of an energy convertor for a mechanical press and its application to high speed forming
ANNOUNCEMENTS	171	

Number 2

M. M. AHMAD, B. HOGAN and E. GOODE	173	Effect of machining parameters and workpiece shape on a bandsawing process
M. M. AHMAD, R. T. DERRICOTT and W. A. DRAPER	185	A photoelastic analysis of the stresses in double rake cutting tools
M. M. AHMAD, W. A. DRAPER and R. T. DERRICOTT	197	An application of the finite element method to the prediction of cutting tool performance
J. S. PARK and S. W. KIM	207	Optimum speed reduction ratio for d.c. servo drive systems
S. EMA and R. DAVIES	217	Cutting performance of end mills with different helix angles
S. DARWISH and R. DAVIES	229	Investigation of the heat flow through bonded and brazed metal cutting tools
K. JEMIELNIAK and A. WIDOTA	239	Numerical simulation of non-linear chatter vibration in turning
K. JEMIELNIAK and A. WIDOTA	249	The development of frequency and amplitude of chatter vibration

F. Sassani and N. Sepehri — 257 Computer-aided process planning for rolling of parts having smoothly varying rectangular cross-section

X. G. Yang, J. W. Chen, S. Z. Li and K. F. Eman — 267 The theoretical stability chart of machine tools—a development of S. A. Tobias' theory

Hong-Yeon Hwang, Jun-Ho Oh and Kwang-Joon Kim — 275 Modelling and adaptive pole assignment control in turning

Preliminary announcement of original work

I. Yellowley and P. Pottier — 287 A note on a simple method for the improvement of interpolation accuracy in a general purpose, multiprocessor based motion controller

Corrigendum — 293

New Patents — i

Number 3

L. C. Lee, K. S. Lee and C. S. Gan — 295 On the correlation between dynamic cutting force and tool wear

R. Shivpuri and P. C. Chou — 305 A comparative study of slab, upper bound and finite element methods for predicting force and torque in cold rolling

Zhang Hongtao, Liu Peide and Hu Rongsheng — 323 The theoretical calculation of naturally curling radius of chip

C. H. Toh — 333 Prediction of the forming limit curves of sheet materials using the rigid-plastic finite element method

R. Balendra and M. A. Hijazi — 345 Evaluation of injection upsetting models

E. I. Rivin and Hongling Kang — 361 Improvement of machining conditions for slender parts by tuned dynamic stiffness of tool

M. Olsson, S. Söderberg, S. Jacobson and S. Hogmark — 377 Simulation of cutting tool wear by a modified pin-on-disc test

M. M. El-Khabeery and M. Fattouh — 391 Residual stress distribution caused by milling

K. Shintani, M. Ueki and Y. Fujimura — 403 Optimum tool geometry of CBN tool for continuous turning of carburized steel

K. Shintani, M. Ueki and Y. Fujimura — 415 Optimum cutting tool geometry when interrupted cutting carburized steel by CBN tool

O. N. Oguoma — 425 Considerations in diaphragm chuck design

I. Fukumoto and S. Itomura — 433 An evaluation of grinding force by the fracture toughness of carbon steel

C. Rubenstein, W. S. Lau and M. Wang — 441 The torque and thrust arising from contact at the chisel edge and margins in spade drilling of ductile materials

C. Rubenstein, W. S. Lau, Z. J. Pei and M. Wang — 453 The torque and thrust arising from contact at the lips in spade drilling of ductile metals

Announcement — 469

New Patents — i

Number 4

V. C. Venkatesh, T. N. Goh, K. H. Wong and M. J. Lim — 471 An empirical study of parameters in abrasive jet machining

P. Mathew — 481 Use of predicted cutting temperatures in determining tool performance

B. S. Yilbas, R. Davies and Z. Yilbas — 499 Laser alloying of metal surfaces by injecting titanium carbide powders

K. R. VEMURI, S. I. OH and T. ALTAN	505	BID: a knowledge-based system to automate blocker design
M. A. DOKAINISH, M. A. ELBESTAWI, U. POLAT and B. TOLE	519	Analysis of stresses during exit in interrupted cutting with chamfered tools
S. J. CHEN, S. HINDUJA and G. BARROW	535	Automatic tool selection for rough turning operations
D. W. WU	555	Optimum trajectory for robot translational contouring under constraints imposed by joint motor capacities
N. RICHARDS and D. ASPINWALL	575	Use of ceramic tools for machining nickel based alloys
B. NOWICKI and M. CICHOWICZ	589	Control of contact stiffness in machine parts
FU JIULIAN, YUAN ZHEJUN and YAO YINGXUE	601	A unified system model of cutting chatter and its transformation function
NEW PATENTS	i	
Title Section, Volume Contents and Author Index	I	